

EXPLANATION OF PLATE XVIII.

- Fig. 1. *Erythrolamprus Æsculapii*, Günth. Head from right side. The inferior labial gland is removed.
2. " " " Right maxilla from below, $\times 8$.
3. " " " Right mandible.
4. " " " Transverse section of posterior maxillary tooth.
5. Aglyphous variety of *Erythrolamprus Æsculapii*. Head from right side.
6. " " " " Left maxilla from below, $\times 8$.
7. " " " " Right mandible.
8. " " " " Transverse section of posterior maxillary tooth.

Reference letters.

- g.h.* Harderian gland.
- g.l.* } Supra-labial gland.
- gl."* }
- g.l.i.* Infra-labial gland.
- g.p.* Parotid (Poison) gland.

On some Exotic Fossorial Hymenoptera in the Collection of the British Museum, with Descriptions of New Species and of a New Genus of the *Pompilidæ*. By Lt.-Col. C. T. BINGHAM, F.Z.S., F.E.S. (Communicated by W. F. KIRBY, F.L.S.)

[Read 2nd April, 1896.]

(PLATE XIX.)

WHILE engaged in incorporating accessions and rearranging the collection of the *Pompilidæ* and other Fossorial Hymenoptera in the Museum of Natural History at South Kensington, I have found a number of species which, so far as I can make out, have not previously been described. In the classification of the *Pompilidæ* I have in this paper followed Kohl. His "Die Gattungen der Pompiliden," published in the Verhandlungen der k.-k. zoologisch-botanischen Gesellschaft in Wien, 1884, contains by far the best arrangement of the genera of that very difficult and puzzling family.

Genus MYZINE, *Latr.*

MYZINE DIMIDIATICORNIS, sp. nov.

♂. Head, thorax, and abdomen punctured, the punctures dense and coarse on the front of the face above the antennæ, on the sides of the thorax, mesonotum, and median segment above, more distant and finer on the vertex, the back of the head, the pronotum, and abdomen; clypeus constricted vertically, transverse; the mandibles smooth; the antennæ porrect and thickened; the pronotum long, constricted anteriorly; mesonotum and median segment coarsely cribrate, the latter truncated at apex, the truncation punctured, an irregular central longitudinal carina from its base to the margin of the truncation; legs smooth, with a few distant punctures, and slightly pubescent; abdomen long, the base of the segments constricted, the apex below with a strong recurved spine. Intensely black; the clypeus, scape of the antennæ, and the basal four joints of the flagellum above and below dark ferruginous red; abdomen with prismatic tints of blue and purple. Wings—the fore wing clear hyaline at base up to the basal nervure, fuscous beyond, with a superb purple effulgence; hind wing fuscous at apex, becoming gradually hyaline at base.

♂. Length 13 millim.; exp. 22 millim.

Hab. Kumaon, N. India.

It somewhat resembles *M. dimidiata*, Smith, in the colour of the wings, but that species has the median segment rounded posteriorly, and the basal segment of the abdomen petiolate and markedly constricted at apex, besides being totally black in colour.

Genus SCOLIA, *Fabr.*

Discolia, *Sauss.*—*With 2 cubital cells and one recurrent nervure.*

SCOLIA SIKKIMENSIS, sp. nov.

♀. Head smooth, thorax and abdomen punctured and pubescent; clypeus with its anterior margin slightly arched and a row of coarse submarginal punctures; antennal ridge short, with a shallow abbreviated groove above it; mesonotum in the middle and the apex of the scutellum smooth and shining; median segment short posteriorly, roundly truncate, the truncation slightly convex; abdomen longer than the head and thorax, the basal segment tuberculated in the middle above, the 2nd segment constricted at base. Black, the pubescence fulvous red; the mandibles, the scape, and the 1st joint of the flagellum

of the antennæ, the vertex and cheeks behind the eyes, the posterior lateral angles of the median segment, a spot on each side of the basal segment of the abdomen, and a broad band at the base of the 2nd and 3rd segments above, yellow; the band on the 2nd segment is deeply emarginate at the sides, that on the 3rd segment is notched in the middle at base. Wings flavo-hyaline, ferruginous along the costal margin, with a long fuscous spot beyond the apex of the 2nd cubital cell.

♂. Similar, but has in addition the clypeus, the pronotum, the mesopleuræ, the tegulæ, a lateral longitudinal line on the mesonotum above the tegulæ, the scutellum and postscutellum, a band at the apex of the 4th abdominal segment, a lateral spot on the 2nd and 4th, and a band on the 3rd ventral segment, yellow; the coxæ, femora, and tibiæ of the legs are also variegated with yellow; the antennæ, the vertex of the head, and the intermediate and posterior tibiæ and tarsi are black.

♀. Length 22–25 millim.; exp. 44–48 millim.

♂. Length 18–22 millim.; exp. 40–45 millim.

Hab. Sikkim.

Closely allied to *S. histrionica*, Fabr., but differs considerably in markings, and above all in the puncturing of the thorax and the shape of the basal abdominal segment.

SCOLIA DESIDIOSA, sp. nov.

♀. Closely resembles *S. decorata*, Burm., but is smaller, and the sculpture and markings are very different. Clypeus transverse, a little convex in the middle, the margins closely punctured, the vertex and front somewhat coarsely punctured, the thorax finely and distantly, the mesonotum more closely punctured; the abdomen is smooth, with only a few scattered punctures, the pubescence thin and sparse. Black; two spots above the base of the antennæ, the sides of the pronotum, a spot under the base of the wings, the scutellum, two lateral spots on the postscutellum, the posterior angles of the median segment, and large oblong maculæ on the sides of the basal four segments of the abdomen, yellow; the maculæ on the 2nd segment have a large black spot at their base below. Wings fusco-hyaline, with a dark subapical cloud at the apex of the fore wing.

♀. Length 22–25 millim.; exp. 38–40 millim.

♂. Length 14–16 millim.; exp. 40–44 millim.

Hab. Sikkim; Tenasserim.

SCOLIA FLORIDULA, sp. nov.

♀. Closely resembles *S. sikkimensis*, but differs in sculpture and markings. The clypeus is raised in the centre, almost tuberculate, the thorax and abdomen more coarsely and closely punctured, and the basal segment of the latter is not tuberculate at base. Black; a crescentic mark on the clypeus, the front of the face above the antennæ and as high as the anterior ocellus, a line on the occiput prolonged behind the eyes, the pronotum, a spot under the base of the wings, the scutellum, a line on the postscutellum, two small lateral spots on the basal segment of the abdomen, two larger lateral spots on the 2nd segment, and a broad band at the base of the 3rd segment, yellow; the wings flavo-hyaline, dark ferruginous along the costal margin, becoming fusco-ferruginous at the apex; legs ferruginous, the anterior pair variegated with yellow, the tarsi nigro-fuscous.

♀. Length 18 millim.; exp. 34 millim.

Hab. Tenasserim.

Genus CEROPALES, *Latr.*

CEROPALES PERNIX, sp. nov.

♂. Head, thorax, and abdomen smooth, slightly shining; clypeus large, its anterior margin widely emarginate; labrum exserted, the apex emarginate; pronotum short, its posterior margin arched; mesonotum subconvex, with two longitudinally parallel, abbreviated, shallow furrows at the apex; scutellum and postscutellum large, not laterally compressed; median segment with a rounded slope posteriorly; legs long, smooth, the claws of the tarsi stout, but apparently without a tooth below at base. Wings—the cubital and discoidal nervures of the fore wing both reach the margin of the wing, the basal nervure interstitial, the 2nd and 3rd discoidal cells subequal. Ferruginous yellow, the mandibles except at apex, the labrum, palpi, clypeus, sides and front of face, a line behind the eyes, and the posterior margin of the pronotum, light straw-yellow; the abdomen, which is short, has the posterior margins of the 1st to 5th segments above dull yellow.

♂. Length 9 millim.; exp. 14 millim.

Hab. Tenasserim.

A distinct little species.

Genus PSEUDAGENIA, Kohl.

PSEUDAGENIA RAVA, sp. nov.

♀. Pruinose; the clypeus short, its anterior margin rounded and bearing an obscure transverse carina, front sub-convex; the ocelli placed in shallow pits, an impressed vertical line from the anterior ocellus to between the bases of the antennæ; head transverse posteriorly; pronotum rather long, rounded anteriorly, its posterior margin very slightly arched; median segment with a rounded, rather steep slope posteriorly, feebly transversely striated; legs long, the tibiæ and tarsi smooth or with a few minute spines, claws unidentate; abdomen fusiform, curved, the petiole short, the ventral furrow well-marked. Black, with dense grey pile which appears silvery in certain lights, and on the posterior margins of the segments of the abdomen forms silvery bands, that on the third segment being broadest and produced angularly forward in the middle; wings flavo-hyaline, the apical margins broadly fuscous.

♀. Length 10 millim.; exp. 18 millim.

Hab. Bangalore, S. India.

Distantly resembles *Pseudagenia novaræ*, Sauss., from Australia, but that species is larger, has the antennæ yellow, and the wings fuscous.

PSEUDAGENIA ERIGONE, sp. nov. (Pl. XIX. fig. 1, ♀.)

♀. Head and thorax rugose; abdomen smooth and shining. Head and pronotum very finely and closely punctured; mesonotum, scutellum and postscutellum longitudinally, the median segment transversely, and the pleuræ obliquely striated, the striæ very fine on the mesonotum and pleuræ and coarse on the scutellum, postscutellum, and median segment; legs smooth, with extremely minute spines on the tibiæ and on the tarsi beneath, claws bifid; abdomen petiolate, the 2nd ventral segment with a deep transverse furrow. Black, the head and thorax except the scutellum opaque, the latter and the abdomen shining ebony-black; wings hyaline, with two fuscous transverse fasciæ, the first at the basal nervure very broad, and reaching from the costal to the anal margin of the fore wing, the second narrow, occupying the basal angle of the radial and the apices of the 2nd cubital and 2nd discoidal cells.

♂ unknown.

♀. Length 13 millim.; exp. 27 millim.

Hab. Tenasserim.

A very distinct species, unlike any other in the sculpture of the thorax and in having the fascia on the wing, close to the base, broader than the subapical fascia.

PSEUDAGENIA ARTEMIS, sp. nov. (Pl. XIX. fig. 2, ♀.)

♀. Head, pro- and mesonotum, scutellum and postscutellum, and abdomen smooth and shining; median segment transversely, and the pleuræ obliquely striate; clypeus convex, its anterior margin obtusely angular; median segment with a rounded steep slope to its apex; legs long, the intermediate and posterior tibiæ and tarsi with very minute spines, almost smooth, claws with an obtuse strong tooth at base below; abdomen with the basal segment less petiolate than in most other species of the genus. Dark cobalt-blue; the antennæ, the femora, tibiæ, and tarsi of the legs opaque black; the fore wing dark fuscous with a purple effulgence, the hind wing hyaline at base, lightly fuscous towards the apex; nervures and tegulæ piceous black; the face in front, the sides of the thorax, and the median segment covered with a thin soft silvery-white pubescence.

♂ unknown.

♀. Length 19 millim.; exp. 41 millim.

Hab. Tenasserim (Salween Valley).

Resembles somewhat the description, so far as it goes, of Lepeletier's *Pallosoma cyanea*, but that species is described as having bluish-black pubescence and the wings "sans transparence."

PSEUDAGENIA CLYPEATA, sp. nov.

♀. Pruinose; the pronotum very short, its anterior margin nearly transverse, the posterior angularly arched; median segment with a rounded, somewhat steep slope to its apex, and a broad shallow longitudinal sulcation down the middle; legs with the tibiæ and tarsi with very minute spines, nearly smooth, claws minutely unidentate; abdomen petiolated, the 2nd ventral segment with a deeply impressed transverse furrow. Black, with a dense soft white pruinosity giving it a greyish look; clypeus yellowish white, with a minute black spot in the middle at base; the anterior tibiæ and tarsi and the flagellum of the antennæ below, with three or four of the apical joints above, testaceous red; the extreme apex of the intermediate femora, with the under-side of the tibiæ and tarsi, and the posterior femora blood-red;

wings hyaline, somewhat iridescent, the nervures and tegulæ testaceous brown.

♂ similar, but has the femora, tibiæ, and tarsi of the anterior legs and the posterior four femora testaceous red.

♀. Length 9–11 millim.; exp. 20–24 millim.

♂. Length 6–8 millim.; exp. 13–17 millim.

Hab. Generally distributed throughout Burma and Tenasserim.

Resembles *Pseudagenia tincta* and *mutabilis* of Smith, and *P. ariel*, Cameron, but differs in the abbreviated prothorax and the colouring of the clypeus, antennæ, and legs, which is very constant in this species.

PSEUDAGENIA STULTA, sp. nov.

♀. Head and thorax pruinose; abdomen smooth, polished and shining; clypeus narrow, almost transverse, its anterior margin smooth and shining, arched, and produced a little in the middle; the front above the antennæ, the vertex, pro- and mesonotum finely punctured, the punctures distant on the head and pronotum, somewhat closer together on the mesonotum; the front subconvex; the pronotum transverse anteriorly, with the shoulders prominent, almost tuberculate, posteriorly arched; mesonotum with a central longitudinal carina at apex; scutellum broad, post-scutellum rounded, not laterally compressed; median segment long, with a regular slope to its apex, transversely striated, a central longitudinal broad furrow at base and apex, interrupted in the middle; legs long, the tibiæ and tarsi smooth, without spines, claws unidentate; abdomen as long as the head and thorax together, the 2nd ventral segment with a transverse furrow; the fore wing with the basal nervure not interstitial, the hind wing with the cubital nervure rising well after the apex of the anal cell. Head and thorax opaque dull black, covered with a silky silvery pile, most dense on the face in front and at the apex of the median segment; the apical three or four joints of the antennæ and the coxæ and trochanters of the legs testaceous brown, the tibiæ and tarsi black; the abdomen shining black; wings hyaline, beautifully iridescent.

♀. Length 11 millim.; exp. 20 millim.

Hab. Tenasserim.

This pretty little species resembles *Pseudagenia tincta* and *mutabilis*, Smith,* but differs in being longer and slighter, in the pronotum not being rounded but transverse in front with prominent angles at the sides, in the metanotum being transversely

striated, and in the colour of the coxæ and trochanters of the legs, which in the others are black. From *Pseudagenia ariel*, Cameron, it differs in not having the mandibles rugose, in the shape of the prothorax, and in the colour of the legs and wings.

PARAGENIA, gen. nov.

Allied to *Agenia*, Schiödte, and *Pseudagenia*, Kohl; differs in the body being more slender and the legs longer in proportion, in the coxæ and femora of the legs being thickened as in the genus *Macromeris*, particularly so in the male, which has, further, the coxæ of the intermediate legs produced in front into large, remarkably prominent cone-shaped tubercles. In both sexes the joints of the anterior tarsi are extremely attenuated at base. The neuration of the wings is similar to that of *Pseudagenia*, the species of which genus the type and only known species of *Paragenia* resembles in its breeding-habits, making cone-shaped nests of clay and filling them with spiders.

PARAGENIA ARGENTIFRONS. (Pl. XIX. figs. 3, 3a.)

Macromeris argentifrons, Smith, Journ. Linn. Soc. ii. (1858), p. 97. 2, ♀ ♂; id. xi. (1867) p. 356. 2; Cam. Mem. Manch. Lit. & Phil. Soc. 1891, p. 436. 3.

Hab. Borneo; Malacca; Java. Common in Burma and Tenasserim, and in Sikkim.

I have a long series of this species, which I have compared carefully with the types in the British Museum. Smith placed it under Lepeletier's genus *Macromeris*, probably because of the swollen coxæ and femora in the male; but it cannot be classed under that genus, as the fore wing has the radial cell acuminate, not rounded, at apex, the tibiæ and tarsi are spinose, and there is no lateral tubercle on the thorax in front of the intermediate coxæ.

Genus POMPILUS, *Fabr.*

POMPILUS DÆDALUS, sp. nov.

♀. Head, thorax, and abdomen smooth and shining; clypeus convex, subtriangular, its anterior margin very slightly arched, nearly transverse; the inner margin of the eyes with an outward curve; the front sulcated from the anterior ocellus to between the base of the antennæ; the back of the head transverse; the mesonotum with the sides raised and a short longitudinal furrow on either side; the scutellum prominent; the median

segment short and truncated at the apex, the truncation obscurely transversely striated; legs stout, spinose, claws bifid; abdomen sessile, obscurely pruinose. Head, thorax, and abdomen black, the antennæ and the tibiæ and tarsi of all the legs dull piceous red; wings fuscous, with little or no effulgence, the apex of the radial cell acutely angled, the 2nd and 3rd cubital cells subequal; abdomen with the posterior margins of the segments narrowly testaceous.

♀. Length 15–19 millim.; exp. 28–36 millim.

Hab. Sikkim; Tenasserim.

The only two species this could be confounded with are *P. canifrons*, Smith, and *P. perplexus*, Smith, but the former has the “metathorax smooth, rounded behind,” and the latter is a smaller, slighter insect, with much darker wings. From both species *P. Dædalus* differs in the colour of the antennæ, tibiæ, and tarsi.

POMPILUS INFESTUS, sp. nov.

♀. Head, thorax, and abdomen smooth; the clypeus convex, transversely rectangular, its sides rounded; the front of the face flat, with an abbreviated impressed line from the anterior ocellus to between the bases of the antennæ; median segment short, rounded posteriorly with a steep slope to its apex; legs stout, the tibiæ and tarsi with a few scattered spines, claws unidentate. Ferruginous red; the wings flavo-hyaline, broadly fuscous at the apex, nervures brown, tegulæ ferruginous; the clypeus, the inner margin of the eyes, a line on the posterior border of the pronotum, a spot on the posterior tibiæ at base, the basal two joints of the intermediate and posterior tarsi, and the 3rd and 4th segments of the abdomen, rich chrome-yellow.

♀. Length 15 millim.; exp. 25 millim.

Hab. India.

The type and only specimen is in the collection of the British Museum. This is a very distinct species—a true *Pompilus* with the colouring of a *Ceropales*.

POMPILUS UNIFASCIATUS. (Pl. XIX. figs. 4, 4a.)

Pompilus unifasciatus, Smith, Cat. Hym. iii. p. 145. 133, ♀ ♂; id. Journ. Linn. Soc. xi. (1867), p. 352. 8.

Pompilus exortivus, Smith, Trans. Ent. Soc. 1873, p. 188. 7, ♀.

From a comparison of the descriptions and of a specimen in the Museum collection from Shanghai labelled *Pompilus exortivus*

in the late Mr. Smith's own handwriting, I have no doubt in my mind that *P. unifasciatus* and *P. exortivus* are one and the same species. The type specimen of the latter is somewhat larger and has the median segment more yellow and the legs with more black, but otherwise they are identical in sculpture and markings.

POMPILUS BIOCULATUS, sp. nov.

♀. Head, thorax, and abdomen smooth, pruinose; clypeus subconvex, its anterior margin arched, its posterior nearly transverse; scutellum large, laterally compressed; the median segment short, with a rounded truncation posteriorly; legs with the tibiæ and tarsi spinose, the spines short and stout, not disposed in rows, claws unidentate; abdomen sessile. Black; the head, except an irregular black mark on the front reaching the base of the antennæ, a broad stripe on the posterior margin of the pronotum, a square spot at the apex of the mesonotum, the scutellum in the middle, the legs except the coxæ, trochanters, base of the femora and the apical joints of the tarsi, and two lateral linear spots at the base of the 2nd segment of the abdomen, ferruginous yellow; wings ferruginous, with their apical margins broadly fuscous. The spots on the abdomen are sometimes obsolete, but can nearly always be detected by holding the insect up to a good light.

♂. Very similar, has more black mixed with the ferruginous yellow on the head and thorax, and is smaller and slighter.

♀. Length 12–17 millim.; exp. 30–35 millim.

♂. Length 10–11 millim.; exp. 25–32 millim.

Hab. Sikkim; Burma; Tenasserim; extending to China and Japan.

In Mr. Rothney's collection, worked out by Mr. Cameron, there is one specimen of this species labelled *Pompilus unifasciatus*, Smith, in the late Mr. Smith's own handwriting, and is entered under that name by Mr. Cameron in his paper (*Hym. Orient., Mem. Manch. Lit. & Phil. Soc.* 1891, p. 470), but with a note to the effect that it differs from the type of *P. unifasciatus*. I have a series of over a hundred of both species, and the difference between them is constant and well-marked.

POMPILUS ALICLÆ, sp. nov. (Pl. XIX. figs. 5, 5a.)

♀. Head, thorax, and abdomen smooth, very slightly pruinose; clypeus broader than high, convex, slightly projecting anteriorly, somewhat emarginate in the middle; prothorax squarish in front; posterior margin of the pronotum arched; median segment rounded,

with a very steep slope to the apex; legs stout, the tibiæ and tarsi spinose, the spines long and irregular; abdomen subsessile, as long as the head and thorax together, its apical segment studded with stiff hairs. Black; the basal two-thirds of the clypeus, the front and vertex, the scape of the antennæ, a broad band on the posterior margin of the pronotum, a square spot at the apex of the mesonotum, the centre of the scutellum and postscutellum, and the tibiæ and tarsi of the legs, ferruginous yellow; wings ferruginous, broadly infuscated at apex, the nervures and tegulæ ferruginous; abdomen black, an abbreviated yellow line at the base of the 2nd and 3rd segments above, the apical segment with pale yellow silky pile and long ferruginous hairs. The ferruginous yellow markings on the head, thorax, and legs are sharply defined off from the black.

♀. Length 20 millim.; exp. 36 millim.

Hab. Mergui, South Tenasserim.

Resembles the preceding species, but differs in the shape of the clypeus and the median segment and markedly in coloration.

Genus *SALIUS*, *Fabr.*

Hemepepsis group.

SALIUS AUTOLYCUS, sp. nov. (Pl. XIX. fig. 6, ♀.)

♀. Head and thorax opaque, pruinose; abdomen smooth and shining; clypeus transverse, its anterior margin widely emarginate in the middle, the sides oblique; the front subconcave, an impressed line from the anterior ocellus to between the bases of the antennæ; the flagellum of the antennæ thick, convolute; the vertex strongly arched; the pronotum short, rounded in front, its posterior margin arched, the mesonotum subconvex; the scutellum and postscutellum raised and laterally compressed; median segment long, rounded, transversely striated, its apex abruptly truncate, the truncation smooth and shining; legs long, robust, the tibiæ and tarsi strongly spinose; the intermediate and posterior tibiæ flattened and grooved above but not serrated, claws bidentate; abdomen sessile, the transverse furrow on the 2nd ventral segment shallow. Black; the mandibles except at the apex, the clypeus, and the antennæ castaneous brown; the head, pro- and mesonotum covered with a short thick velvety pile; the coxæ in front, the femora, tibiæ, and tarsi ferruginous, shading to fuscous black on the tarsi below; wings very dark brown, with a superb effulgence

of blue and purple; abdomen black, the apical three segments with large obscure lateral spots of orange-red above, and similar smaller spots on the ventral side.

♀. Length 60 millim.; exp. 106 millim.

Hab. Kilimanjaro.

A large handsome species allied to *Salius* (*Hemipepsis*) *prodigiosa*, Gerst., but much larger, and differing in the shape and sculpture of the thorax and in the colour of the abdomen.

SALIUS SATELLES, sp. nov. (Pl. XIX. fig. 7, ♂.)

♂. Pruinose; the clypeus small, convex, its anterior margin almost transverse in the middle and slightly bent downwards; the mesonotum broad, subconvex, slightly aciculate; scutellum and postscutellum raised in the middle, very prominent, the latter forming a tubercle; median segment long, somewhat truncate at apex, transversely striated, raised in the middle, on either side of which it is broadly longitudinally sulcate, the sides again being slightly raised and ending at the apex in well-marked but blunt projections; legs long and slender, the tibiæ and tarsi feebly spinose, claws bidentate; abdomen short, vertically compressed, the ventral furrow on the 2nd segment feebly indicated. Intensely black, the clypeus only being alutaceous, and the underside of the antennæ slightly fulvous; wings fuscous, with a broad hyaline yellow transverse band across the disc extending from the apical half of the basal cell in the fore wing to a little beyond the base of the 2nd₂ cubital and 2nd discoidal cells; the nervures fuscous black, yellow on the hyaline portion of the wing; tegulæ black.

♂. Length 22 millim.; exp. 52 millim.

Hab. Ataran Valley, Tenasserim.

Allied to *Salius bellicosus*, Smith, *Salius anthracinus*, Smith, and *Salius hercules*, Cameron, compared with the same sex of which it differs in being slighter and smaller, with proportionately larger and broader wings, and in the shape and sculpturing of the median segment.

SALIUS AUREOSERICEUS.

Pompilus aureosericeus, Guér. Voy. Coq., Zool. pt. 2, p. 256.

? *Prionemis gigas*, Taschenb. Zeits. ges. Naturwiss. xxxiv. (1869) p. 40.

Salius Elizabethæ, Bingh. Journ. Bomb. Nat. Hist. Soc. viii. p. 372, pl. 1. f. 9 (1894).

A very widely distributed and, so far as size and the colour of

the apical two segments of the abdomen go, very variable species. There is I think no doubt that the Burmese form (my *S. Elizabethæ*) is only a race of this species, and I have also united to it, though with some doubt, Taschenberg's *Priocnemis gigas*. Taschenberg's description clearly shows his species has the *Hemipepsis* or *Mygnumia* neuration, and, so far as I can make out, the sculpturing and colour agree very well with those of *P. aureosericeus*. This species is a good example of the uselessness of wing-neuration only as a generic character. I have examples of it, all with bidentate claws, that have the typical *Mygnumia*, and others that have the *Priocnemis* neuration.

♀. Length 32–41 millim.; exp. 66–84 millim.

♂. Length 27–31 millim.; exp. 60–70 millim.

SALIUS FENESTRATUS.

Mygnumia audax, Smith, Cat. Hym. iii. p. 182. 4, ♀; nec *Pompilus* (recte *Salius*) *audax*, Cat. iii. p. 136. 85.

Mygnumia fenestrata, Smith, Cat. iii. p. 184. 10, ♂.

Salius audax, Cam. Mem. Manch. Lit. & Phil. Soc. 1891, p. 442.

Salius funestus, Cam. Mem. Manch. Lit. & Phil. Soc. 1891, p. 444. 13.

Hab. Silhet; Kumaon; Sikkim; Tenasserim.

This handsome species is common in Sikkim and on the higher hills in Tenasserim. There seem to be two races—one (*audax*, Smith), with the wings deep ferruginous yellow; and a second (*fenestratus*, Smith, *funestus*, Cam.), which has the wings dark fuscous with a purple effulgence, though it is absolutely identical in the form and sculpture and markings of the body. In fact one specimen of the latter in the Museum collection is labelled "*Mygnumia audax*, var." in the late Mr. Smith's own handwriting.

Priocnemis group.

SALIUS VALENTULUS, sp. nov.

♀. Head, pronotum, sides of the mesonotum, scutellum and postscutellum smooth, very slightly pruinose; the mesonotum aciculate in the middle; median segment finely and closely transversely striate, posteriorly rounded with a gradual slope, the apex truncate, the truncation slightly concave; legs stout, the tibiæ and tarsi strongly spinose, the posterior tibiæ serrated, claws bidentate; abdomen short, with the basal segment petiolate, the 2nd ventral segment with a well-marked transverse furrow. Black; the wings

hyaline, broadly fuscous at apex; the basal two segments of the abdomen and the basal half of the 3rd segment above ferruginous red; the remaining segments black, the apical segment with stiff fulvous hairs; beneath, only the 1st and basal half of the 2nd segment are red, the rest of the abdomen being black studded with scanty fulvous hairs.

♀. Length 16 millim; exp. 26 millim.

Hab. North-West Provinces, India.

Resembles *Salius Juno*, Cameron, with the type of which in Mr. Rothney's collection I have compared it; but, apart from the great difference in size and in the colour of the abdomen, the clypeus in this species has the anterior margin transverse, almost truncate in the middle; in *S. Juno* it is rounded: the median segment in *S. Juno* is long and gradually rounded to the apex, in *S. valentulus* it is short with the apex truncate.

SALIUS TERRENUS, sp. nov. (Pl. XIX. fig. 8, ♀.)

♀. Head and thorax pruinose, median segment finely transversely striated, abdomen finely aciculate; clypeus large, its anterior margin boldly arched and fringed with long hairs, the posterior transverse; scutellum and postscutellum laterally compressed and very prominent, the former longitudinally and the latter obliquely striated on the sides; median segment with a very steep slope to the apex, scarcely rounded above, somewhat compressed at the sides; legs long, the tibiæ and tarsi strongly spinose, the posterior tibiæ serrated; abdomen petiolate, the 2nd ventral segment with a well-marked transverse furrow. Dull red; the clypeus, the face in front, and the pro- and mesonotum with dense golden pile, very brilliant and glittering in certain lights; median segment shaded with fuscous black; abdomen with the base of the 1st and apex of the 1st, 2nd, and 3rd segments broadly black, the black not continued as bands on the underside; the wings a pale oily brown, hyaline, and in certain lights iridescent; a faint fuscous cloud occupies the 2nd and 3rd cubital and upper part of the 2nd discoidal cells.

♂ similar, but the wings have a larger faint fuscous cloud at apex beyond the 2nd cubital cell.

♀. Length 20 millim.; exp. 44 millim.

♂. Length 18 millim.; exp. 38 millim.

Hab. Sikkim; Burma; Tenasserim.

Resembles *Salius Nicevillii*, mihi, from which it differs in being much smaller, duller in colour, and in the median segment

being produced but slightly posteriorly, only sloping steeply from base to apex.

SALIUS GRASSATOR, sp. nov.

♂. Pruinose; the clypeus small, convex, its anterior margin sharply transverse, the sides oblique, above it is subangular, the base being truncate; eyes very convergent above, ocelli remarkably large and prominent; the antennæ straight and filiform; prothorax short, rounded in front, the posterior margin subarcuate; scutellum and postscutellum prominent; median segment long, with a very gradual slope to its apex, finely transversely striated and bearing a medial longitudinal furrow from base to apex; legs long, the tibiæ and tarsi spinose, the posterior tibiæ with the serrations just indicated; claws strongly unidentate below; abdomen petiolate, slightly aciculate, the 2nd ventral segment with a well-marked transverse furrow. Head, thorax in front, and the femora, tibiæ, and tarsi of the legs ferruginous red; the sides of the thorax, pectus, median segment, coxæ and trochanters dull blackish; the whole thorax covered with a fine sericeous golden pile, dense on the face in front, pro- and mesonotum, and thin and scanty on the sides of the thorax and median segment; abdomen dark castaneous red, lighter in the middle of the basal segment, and covered with a short fine ferruginous pile seen only in certain lights; wings pale flavo-hyaline, the apex of the fore wing from beyond the middle of the 2nd cubital cell to the apex of the 3rd dark fuscous, beyond that to the apex of the wing lightly fuscous.

♂. Length 17 millim.; exp. 36 millim.

Hab. Sikkim, at low elevations. A very distinct species.

SALIUS GEMINUS, sp. nov.

♀. Closely resembles the European *Salix serripes*, Dahlbom, and is in fact the Himalayan representative of that species. Head, thorax in front, and abdomen smooth; median segment lightly transversely striate; clypeus transversely oval, its anterior margin thickly fringed with long hairs; front slightly convex, an impressed vertical line from the anterior ocellus to between the base of the antennæ; median segment long, as long as the rest of the thorax, rounded with a gradual slope to its apex; antennæ and legs long, the tibiæ and tarsi of the latter strongly spinose, the posterior tibiæ markedly serrate; abdomen fusiform, petiolate, as long as the head and thorax together, the 2nd ventral segment

with a deep transverse furrow. Dull opaque black, the basal two segments above and below and basal half of the 3rd segment of the abdomen above red; there are also indications of the red colour on the apical margins above of the 3rd and 4th segments; the thin scattered pubescence on the head and thorax is black, and on the apical segments of the abdomen ferruginous; wings hyaline, the apex of the fore wing broadly fuscous.

♀. Length 13 millim.; exp. 22 millim.

Hab. Mussoorie, N.W. Himalayas.

SALIUS VENATORIUS, sp. nov. (Pl. XIX. fig. 9, ♀.)

♂. Head, thorax in front, and abdomen smooth, very slightly pruinose, median segment lightly transversely rugose; clypeus large, its anterior margin arcuate and slightly reversed, posterior bisinuate; front of the face slightly concave, an impressed vertical line from the anterior ocellus to between the antennæ; vertex of the head compressed, narrow; antennæ thick, setaceous; pronotum very short, anteriorly and posteriorly arched; post-scutellum compressed, tuberculate; median segment long, with a very gradual slope to the apex, a deep short fovea at its base; legs long, the tibiæ and tarsi slightly spinose, claws unidentate; abdomen vertically compressed, the furrow on the 2nd ventral segment barely indicated. The head, pronotum, apex of the femora, tibiæ and tarsi light ferruginous, a dusky stain on the front from the vertex to the base of the antennæ, the antennæ at apex fuscous; the thorax except the front of the prothorax, coxæ, trochanters, basal half of the femora, and abdomen alutaceous brown, the last with a rich purple bloom in certain lights; wings fuscous brown, flavo-hyaline on the disc from the apical half of the 1st cubital and 1st discoidal cells to the 3rd cubital and 3rd discoidal cells; a dark spot with a hyaline border posteriorly at the base of the 1st discoidal cell.

♂. Length 13-18 millim.; exp. 24-28 millim.

Hab. Hills of Burma and Tenasserim.

Re-embles *S. satelles*, but is structurally and in coloration abundantly different.

SALIUS PLACIDUS, sp. nov.

♂. Head and thorax densely pruinose; abdomen smooth and shining; clypeus short, vertical, nearly flat, its anterior margin transverse in the middle, oblique at the sides; antennæ

very long and thick, the scape laterally compressed, somewhat flattened, front concave, frontal furrow well-marked; ocelli large and prominent; pronotum very short, rather square anteriorly, arched behind; scutellum and postscutellum laterally compressed; median segment long, rounded posteriorly, with a very gradual slope to its apex, smooth, with only a few transverse striæ; legs long, the tibiæ and tarsi only slightly spinose; claws unidentate; abdomen vertically compressed, the transverse furrow on the 2nd ventral segment barely indicated. Head and thorax black; the femora, tibiæ, and tarsi of the legs light ferruginous; abdomen ferruginous red; the mandibles except at their apex, the clypeus except a spot in the middle, the face below the antennæ, and the inner margin of the eyes, not reaching the vertex, pale yellow; the antennæ beneath and the anterior coxæ in front fulvous, the base of the abdomen fuscous. The head and thorax are covered with a glistening silvery silky pile, and in certain lights the apical margins of segments 1-4 of the abdomen above are seen to be broadly darker in colour. Wings subhyaline purplish brown, with clear hyaline spaces in the 1st discoidal and 2nd submedial cells of the fore wing, and in the anal and discoidal cells of the hind wing.

♂. Length 15 millim.; exp. 34 millim.

Hab. Tenasserim.

A very distinct little species.

Genus *MACROMERIS*, *Lepelet.*

MACROMERIS CASTANEA, sp. nov.

♀. Head and thorax in front pruinose, median segment coarsely rugose; legs and the abdomen smooth and shining; clypeus large, subconvex, covered with long pubescence, its anterior margin arched with a waved outline, the middle produced into an acute tooth with a blunt rounded projection on each side; mesonotum convex; scutellum and postscutellum raised, prominent, the latter tuberculate in the middle; median segment rounded, steeply sloped posteriorly, coarsely cribrate; the mesonotum at apex, the sides of the scutellum and postscutellum, and the thorax beneath the wings obliquely striated, the latter below, in front of the intermediate coxæ, produced into prominent lateral tubercles; the wings have the radial cell in the fore wing large and rounded at apex, the 1st recurrent nervure is received in the apical third of the 2nd cubital cell, and the 2nd recurrent

nervure in the middle of the 3rd cubital cell; legs long, smooth, and entirely without spines, claws bidentate; abdomen petiolate, the 2nd ventral segment with a well-marked transverse furrow. Colour dark chestnut-red; the vertex, sides of the thorax, and abbreviated apical bands on segments 1-4 of the abdomen fuscous black, these bands produced forward angularly in the middle; wings hyaline with a yellowish tint, nervures and tegulæ testaceous brown. The short, fine, scanty pubescence on the head and thorax anteriorly chestnut-brown.

♀. Length 24 millim.; exp. 50 millim.

Hab. Java.

A very distinct and well-marked form, differing from the only two other described species of the genus in the shape of the thorax and notably in the colour of the body and wings. The type and only specimen is evidently an insect collected many years ago, though still in fair preservation.

Genus DOLICHURUS, *Latr.*

DOLICHURUS BIPUNCTATUS, sp. nov.

♂. Head in front and the median segment rugose; the vertex, back of the head, pro- and mesonotum, and abdomen smooth; head and thorax with a thin short pubescence, dense only on the clypeus; pronotum transverse, the tubercles at the anterior angles well-marked and prominent; mesonotum with two medial, longitudinal, somewhat deep furrows; median segment flat above, the sides steeply sloped, the apex truncate, a transverse carina at the base, two medial longitudinal carinæ from the base to the margin of the truncation, with a transverse carina there joining them, two other outer carinæ parallel to them, with a second transverse carina below the margin of the truncation joining them, the surface between the carinæ is roughly transversely striate; legs stout, without spines, the femora flattened; abdomen short, the posterior margins of the basal two segments strongly constricted, the 1st above and below, the 2nd only above. Black, the pubescence fulvous white; the concave projecting plate above the antennæ, on the outer margin, and the tubercles at the outer angles of the pronotum yellow; wings hyaline and iridescent, nervures and tegulæ testaceous.

♂. Length 9 millim.; exp. 16 millim.

Hab. Pegu Hills, Burma.

Nearly allied to *D. taprobanæ*, Smith, but that species has the

front of the head smooth, not punctured, the thorax for the most part and the abdomen polished and shining, and the superantennal plate on the outer margin with the tubercles on the pronotum black not yellow.

Genus *PHILANTHUS*, *Fabr.*

Div. 1. *Abdomen sessile.*

PHILANTHUS AVIDUS, sp. nov.

♀. Head very closely and finely, thorax and posterior margin of the basal segment of the abdomen more distantly and coarsely punctured, the base of the 1st, the 2nd and following segments of the abdomen smooth; head broad, as broad as the thorax; mesonotum strongly convex; median segment short, subcylindrical above, level and with the apex steeply sloped, almost truncate, a central longitudinal broad but shallow furrow runs from base to apex, the sides and apex with a thin scanty pubescence; legs with the tibiæ and tarsi spinose; abdomen with the basal segment slightly constricted along the extreme apex of the posterior margin above, the apical segments of the abdomen slightly pubescent. Black; the mandibles except at apex, the clypeus, a moon-shaped spot above it, a spot on each side of the face above the base of the antennæ, the scape in front, the inner margin of the eyes, a line behind them, a line on the front of the pronotum, the tegulæ, the postscutellum, the tibiæ and tarsi of the legs above, two lateral subapical spots on the basal segment, and narrow subapical bands, continued on the ventral side, on segments 2-5 of the abdomen pale yellowish white; the basal segment, except for a narrow subapical border above, deep red; wings hyaline, faintly fuscous and in certain lights iridescent.

♀. Length 10 millim.; exp. 16 millim.

Hab. Tenasserim.

Closest to *P. pulcherrimus*, Smith: differs in the thorax being more closely punctured, and in the abdomen being smooth without punctures: in colour it differs considerably; the scutellum is black not yellow, the coxæ and femora are black not rufo-piceous, and the apical segment is black not yellowish white. It is also a considerably larger and stouter insect than *P. pulcherrimus*. From *P. basalis*, Smith, it differs in being much slighter, and in the colour of the legs and the markings on the head and face.

PHILANTHUS ORDINARIUS, sp. nov.

♀. Head and thorax closely and finely punctured; abdomen smooth, opaque; head slightly broader than the thorax, flattened in front; mesonotum convex, smooth and shining in the middle; scutellum large, prominent, without punctures in the middle; median segment rounded posteriorly, with a narrow central longitudinal furrow from base to apex, the apex and sides pubescent; legs with the tibiæ and tarsi, especially of the posterior pair, strongly spinose; abdomen broad and about as long as the head and thorax together. Black; the mandibles except at apex, the clypeus, a semicircular spot above it, the inner orbits as high as the emargination of the eyes, a line along the outer orbits not reaching the vertex, a line on the pronotum, the tegulæ, a line on the posterior margin of the postscutellum, two small lateral spots on the median segment, the femora, tibiæ and tarsi of the anterior legs, the apex of the femora, the tibiæ, and tarsi of the four posterior legs above, and an irregular waved subapical line above and below on segments 2-4 of the abdomen, pale yellowish white; the base of the 1st segment broadly and of the 2nd narrowly red; wings hyaline, nervures sordid yellow.

♀. Length 12 millim.; exp. 22 millim.

Hab. Tenasserim.

Resembles the preceding species, but differs in the shape of the median segment and scutellum, and considerably in the markings. It is smaller than the type of *P. basalis*, Smith, in the Museum, and differs also from it in the markings and in the sculpture of the thorax.

PHILANTHUS NIGRICEPS, sp. nov.

♂. Head finely and closely punctured, thorax smooth and shining, the mesonotum, scutellum, and postscutellum with a few distant punctures; the median segment smooth and impunctate at base and down a central line to the apex, the apex on either side closely punctured and pubescent; the legs punctured and covered with a thin fine pubescence; abdomen shining, with the bases of segments 2-5 broadly depressed, the depressions forming marked bands very finely transversely striate; the basal segment, the apical margins of the 2nd to 5th, and the apical two segments finely and distantly punctured, the last slightly pubescent at the sides and below. A remarkable feature is the clypeus, which is porrect and broadly emarginate in the middle anteriorly. The

head and thorax black, abdomen dark chestnut-red; the mandibles except at their apex, the clypeus, two spots above it, the inner margin of the eyes broadly but diminishing in width upwards, two large spots behind the eyes, a line on the pronotum, a spot before the tegulæ, a line on the postscutellum anteriorly, and large triangular lateral subapical spots on segments 1-4 of the abdomen, with an irregular line interrupted in the middle on the 5th segment above, yellow; legs rufo-piceous, the anterior femora, tibiæ, and tarsi, and the apex of the femora, the tibiæ and tarsi of the intermediate legs with a deep fulvous tinge; wings fusco-hyaline and iridescent, the nervures and tegulæ testaceous. Pubescence fulvous.

♂. Length 13 millim.; exp. 24 millim.

Hab. India.

A large and very distinct species, unlike any other known to me.

Div. 2. *Abdomen petiolate.*

PHILANTHUS CONCINNUS, sp. nov.

♀. Head and thorax finely and closely punctured, abdomen smooth but not shining; head broad, broader than the thorax, obscurely subpubescent; mesonotum broad convex; scutellum prominent, divided longitudinally by a broad shallow furrow; median segment rounded and steeply sloped posteriorly; legs stout, the tibiæ and tarsi of the intermediate and posterior legs thickly spinose, the anterior tarsi ciliated on the outside; abdomen long, as long as the head and thorax together, the petiole constricted at apex. Black; the base of the mandibles, the clypeus, a crescentic mark above it, the inner margin of the eyes as high as the insertion of the antennæ, a spot on the scape in front, a narrow line sloping obliquely back behind the eyes, an abbreviated line on the pronotum broadly interrupted in the middle, a spot on the tegulæ in front, two minute, obliquely placed spots in the centre of the postscutellum, and an irregular waved subapical line, continued on the ventral side, on the posterior margins of segments 2-4 of the abdomen, with a transverse spot on the apical margin of the 5th, yellow. The line on the 2nd segment is narrowly interrupted in the middle, and there is a large lateral red spot coalescing in the middle at the base of the same segment. Legs variegated with yellow; wings lightly fusco-hyaline and iridescent, nervures and tegulæ testaceous. The

fine sparse pubescence on the head and sides of the median segment is white. A variety has the yellow markings on the postscutellum, the legs, and abdomen obsolete, or nearly obsolete, reduced on the last, in some specimens, to an oval spot on either side of the 2nd segment, and only indications of a yellow line on the 4th and 5th segments.

♀. Length 12 millim.; exp. 22 millim.

Hab. Tenasserim.

Genus PSEN, *Latr.*

PSEN PULCHERRIMUS, sp. nov.

♀. Head above, thorax, and abdomen smooth and shining, the clypeus densely pilose; clypeus small, convex, the front between the eyes broad; the flagellum of the antennæ testaceous, the 2nd joint as long as or longer than the 3rd and 4th together; ocelli in a triangle wide apart from each other, each ocellus in a pit; the apex of the mesonotum and the sides and apex of the postscutellum with coarse outwardly oblique striæ; median segment long, rounded posteriorly, with a well-marked longitudinal furrow in the middle from base to apex; legs stout, the posterior tibiæ with very minute spines; abdomen with the apices of segments 2-4 slightly constricted. Head and thorax black, abdomen ferruginous red; the scape and the basal five joints of the flagellum of the antennæ below, a line on the pronotum, a spot before the tegulæ, the tegulæ, a large square spot at the apex of the mesonotum, the scutellum and postscutellum, two large oblong spots at the apex of the median segment, the apex of the coxæ, the trochanters, femora, tibiæ, and tarsi of the legs, and the petiole of the abdomen, yellow; the femora, tibiæ, and tarsi of the posterior legs have a fuscous stain, and the apex of the petiole below is black; wings hyaline and beautifully iridescent, the nervures testaceous.

♀. Length 7 millim.; exp. 12 millim.

Hab. Amherst (Tenasserim).

Genus CRABRO, *Fabr.*

Div. 1. *Abdomen sessile.*

CRABRO ALACER, sp. nov.

♀. Head, thorax, and abdomen punctured, the punctures on the head and especially on the abdomen very fine and close, on

the thorax they are fine anteriorly, gradually becoming coarser towards the back, till on the apex of the mesonotum, scutellum, and postscutellum they run into longitudinal striæ, and on the median segment form a coarsely rugose cribrate surface; clypeus and base of the mandibles densely pubescent with silvery pile; a short vertical furrow between the bases of the antennæ, and a central longitudinal carina from the middle of the mesonotum to the anterior margin; the tibiæ of the legs broad, coarsely rugose on the outside; abdomen with the bases of the segments slightly constricted. Intense black, the scape of the antennæ in front yellow; the posterior margin of the pronotum, an oblong large spot in the middle of the scutellum, the posterior margins narrowly of segments 1-4 of the abdomen, a broad band in the middle of the 2nd segment, and a spot on either side in the middle of the 3rd segment, brick-red; the apical two segments fringed posteriorly with thin golden pubescence; wings fuscohyaline, slightly iridescent, nervures and tegulæ testaceous.

♀. Length 12 millim.; exp. 22 millim.

Hab. Sumatra.

Allied to *C. tridentatus*, Smith, from Australia, but smaller, and differing considerably in the puncturing and sculpture of the head and thorax. In *tridentatus* the head and thorax anteriorly are smooth but not shining, and the median segment is only longitudinally striate at base, not roughly cribrate.

Div. 2. *Abdomen petiolate.*

CRAEVO (RHOPALUM) BROOKII, sp. nov.

♀. Head, thorax, and abdomen opaque, very closely and finely punctured; the clypeus, front above the antennæ, the cheeks behind the eyes, and the sides of the thorax with thick silvery pubescence; the extreme apical margin of the mesonotum with short longitudinal, and the postscutellum and base of the median segment with oblique divergent striæ, the last subtruncate, with an enclosed triangular space at the base, a central longitudinal furrow, and an oblique outwardly diverging furrow on the posterior angles; legs with the intermediate and posterior tibiæ broad and somewhat spinose; abdomen, the petiole constricted at apex; the apex of the abdomen acute. Black; the scape of the antennæ, a line on the pronotum, a large and a small spot at the outer angles of the scutellum, with the tibiæ and basal joints of the tarsi of all the legs on the outer side yellow, apical joints

of the tarsi ferruginous; abdomen with the apical segment above obscurely, and an irregular oblique streak on each side of the 3rd segment at base a beautiful pale green, the apical two segments are also fringed with a thin white pubescence; wings hyaline and iridescent, nervures and tegulæ testaceous.

♀. Length 12 millim.; exp. 20 millim.

Hab. Kumaon, N. India.

A very beautiful and distinct species, which I have ventured to name after its collector.

EXPLANATION OF PLATE XIX.

- Fig. 1. *Pseudagenia Erigone*, sp. nov., ♀.
 2. „ „ *artemis*, sp. nov., ♀.
 3. *Paragenia argentifrons*, Smith, ♀.
 3 a. „ „ „ ♂. Outline of intermediate coxa.
 4. *Pompilus unifasciatus*, Smith, ♀.
 4 a. „ „ „ ♀. Head from the front.
 5. „ *Alicia*, sp. nov., ♀.
 5 a. „ „ „ ♀. Head from the front.
 6. *Salix Autolytus*, sp. nov., ♀.
 7. „ *satelles*, sp. nov., ♂.
 8. „ *terrenus*, sp. nov., ♀.
 9. „ *venatorius*, sp. nov., ♂.

On the Tooth-genesis in the *Canidæ*. By H. W. MARETT TIMS, M.D., F.Z.S., Lecturer on Biology and Comparative Anatomy, Westminster Hospital Medical School. (From the Huxley Research Laboratory, Royal College of Science, London.) (Communicated by Prof. G. B. HOWES, Sec. Linn. Soc.)

[Read 7th May, 1896.]

THE main object with which this research was undertaken was to trace the order of cusp-development and the inter-relationships of the various cusps in the teeth of the *Canidæ*, and to examine into the evidence thereby obtained bearing upon important and interesting problems of Phylogeny.

While this has been the main object, other secondary questions have not been overlooked. These questions may be briefly enumerated as follows:—

